

REMARKS

Claims 22-34 have been canceled without prejudice or disclaimer. Claims 35-41 have been added and therefore are pending in the present application. Claims 35-41 are supported throughout the specification, including the original claims.

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

I. Non-Compliant Amendment

The Office provided that the prior claim amendment is not compliant. Claims 22-34 have been canceled without prejudice or disclaimer. Furthermore, the newly presented claims are identified with the status identifier "New". Applicants therefore submit that the claims comply with 37 CFR 1.121.

II. The Objection to the Specification

The Office objected to the specification because the claims and drawings contain sequences which are not identified by their corresponding sequence identifiers. The specification and the newly presented claims identify the sequences by their corresponding sequence identifiers. Applicants therefore submit that this objection has been overcome.

III. The Rejection of Claims 22-28 under 35 U.S.C. 112

The Office maintained the rejection of claims 22-28 as failing to comply with the written description requirement. This rejection is respectfully traversed.

As stated in the prior response, the specification contains an extensive disclosure of wild-type proteins from which the protein variants of the present invention are derived. For example, at pages 19-29, the specification describes a number of parent proteases, lipases, oxidoreductases, carbohydrases, transferases, phytases, and lyases from which the protein variants are derived. Furthermore, it would be well within the skill art for the skilled artisan to identify the epitope patterns and epitope areas of a parent protein and then introduce a mutation which results in a protein variant having reduced immunogenicity compared with the parent protein.

However, in order to advance prosecution, the newly presented claims are directed to subtilisin 309 (Savinase) variants.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 112. Applicants respectfully request reconsideration and withdrawal of the rejection.

IV. The Rejection of Claims 22-28 under 35 U.S.C. 112

The Office maintained the rejection of claims 22-28 under 35 U.S.C. 112 for failing to comply with the enablement requirement. This rejection is respectfully traversed.

As discussed in the prior response, the specification contains an extensive disclosure of wild-type proteins from which the protein variants are derived. Based on Applicants' disclosure, the skilled artisan would be led to make other protein variants to obtain the benefits described in the present application. Applicants therefore submit that the specification enables the protein variants of the present invention.

However, in order to advance prosecution, the newly presented claims are directed to subtilisin 309 (Savinase) variants.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 112. Applicants respectfully request reconsideration and withdrawal of the rejection.

V. The Rejection of Claims 24, 25 and 27 under 35 U.S.C. 112

Claims 24, 25 and 27 are rejected under 35 U.S.C. 112 as being indefinite. Specifically, the Office objected to (x) the term "the epitope pattern" recited in claim 24 for lacking an antecedent basis; (y) the term "the epitope" recited in claim 25 for lacking an antecedent basis; and (z) the term "RYPR/K". Claims 22-28 have been rewritten as claims 35-41 to address this rejection. Applicants therefore submit that this rejection has been overcome.

VI. The Rejection of Claims 22-26 and 28 under 35 U.S.C. 102

Claims 22-26 and 28 are rejected under 35 U.S.C. 102 as being anticipated by Lovborg et al. (WO 92/10755). This rejection is respectfully traversed.

Lovborg et al. disclose protein variants that are randomly constructed, which are then evaluated for lower immunogenicity relative to the parent protein. Once protein variants that have lower immunogenicity are identified, Lovborg determines the epitope.

However, Lovborg does not disclose the protein variants of the present invention.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 102. Applicants respectfully request reconsideration and withdrawal of the rejection.

VII. The Rejection of Claims 22-26 and 28 under the Doctrine of Obviousness-Type Double Patenting

Claims 22-26 and 28 are rejected under the doctrine of obviousness-type double patenting as being unpatentable over claims 22-24 and 26-29 of copending U.S. Application No. 09/957,806.

Claims 22-24 and 26-29 of U.S. Application No. 09/957,806 have been canceled without prejudice or disclaimer. Therefore, this rejection is rendered moot.

VIII. Conclusion

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,

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